

ATTACHMENT A
to FCC Public Notice DA 17-365

**Preliminary Views and Draft Proposals presented at
April 18, 2017 Meeting of the
World Radiocommunication Conference Advisory Committee**

Maritime Aeronautical and Radar Services

Document WAC/035(18.04.17)

**PROPOSED EDITS TO NTIA DRAFT PRELIMINARY VIEW ON WRC-19 AI 9.1.4
(REF. WAC/026(18.04.17))**

**UNITED STATES OF AMERICA
DRAFT PRELIMINARY VIEWS FOR WRC-19**

Agenda Item 9: to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention:

Agenda Item 9.1: on the activities of the Radiocommunication Sector since WRC-15.

Note: The subdivision of Agenda Item 9.1 into issues, such as 9.1.1, 9.1.2, etc., was made at the first session of the Conference Preparatory Meeting for WRC-19 (CPM19-1) and is summarized in the BR Administrative Circular CA/226, 23rd December 2015.

Issue 9.1.4 - Resolution 763 (WRC-15) – Stations on board sub-orbital vehicles

BACKGROUND: Sub-orbital vehicles, including manned reusable launch vehicles and high-altitude balloons, are being licensed by the Federal Aviation Administration to operate within the United States of America. It is predicted that the commercial space transportation industry will grow substantially in the coming years. Resolution 763 (WRC-15) identifies a number of challenges that have to be addressed regarding the spectrum requirements for telemetry, tracking and commanding (TT&C) and voice communications supportability of stations on board sub-orbital vehicles.

The ITU Radiocommunication Sector is presently engaged in studying the current and future radio equipment on board sub-orbital vehicles. Studies will be required to identify any required technical and operational measures that could assist in avoiding harmful interference between radiocommunication systems and determine spectrum requirements to consider a possible future agenda item for WRC-23. These studies have been directed to be completed during the WRC-19 study cycle.

U.S. VIEW: The United States supports:

1. The studies called for by Resolution 763 (WRC-15) noting that those studies need to be completed during this study cycle.
2. Based on the outcome of those studies, ~~If the results of studies indicate that~~

additional spectrum and/or other regulatory measures are required, consider a possible seeking an future agenda item for at a future WRC-23.

Terrestrial Services

**UNITED STATES OF AMERICA
DRAFT PRELIMINARY VIEWS FOR WRC-19**

Agenda Item 1.1 *to consider an allocation of the frequency band 50-54 MHz to the amateur service in Region 1, in accordance with **Resolution 658 (WRC-15)***

Background Information:

The 50 – 54 MHz frequency band is currently allocated to the amateur service on a primary basis in Regions 2 and 3. In Region 1, the band is currently allocated to only the Broadcasting Service on a primary basis. However, No. **5.169** of the Radio Regulations provides for an alternate allocation to the amateur service on a primary basis to a number of countries in Region 1, and No. **5.165** provides an alternate fixed and mobile, except aeronautical mobile, allocation on a primary basis to a number of countries in Region 1. WRC-15 decided to study the sharing between the amateur service and incumbent services in Region 1 towards a primary allocation that would facilitate further worldwide harmonisation and international operability. The opportunity provided by Agenda Item 1.1 to achieve global harmonisation would provide the means to introduce new and innovative systems, as well as harmonizing existing amateur service usage in the range 50 - 54 MHz.

The frequency range 30 - 80 MHz marks the transition area between ionospheric and non-ionospheric propagation modes, which makes it particularly interesting for experimentation and study within the amateur service. A number of propagation modes are used by amateurs in the range 50 - 54 MHz:

- Free-space (line of sight)
- E and F2 multi-hop and chordal-hop,
- Trans-equatorial propagation,
- Aurora backscatter,
- Meteor scatter,
- Earth-Moon-Earth (using the moon's surface as a passive reflector),
- Tropospheric super-refraction and ducting,
- Tropospheric scatter,
- Scatter from aircraft and objects in near Earth orbits (e.g. International Space Station)

The technical and operational characteristics of systems used in the amateur service for the purpose of performing sharing studies can be found in ITU-R Recommendation M.1732. Radio amateurs utilise allocations to the amateur service to engage in scientific and technical investigation and experimentation, provide communication in the wake of natural disasters, provide non-commercial public service communications, and conduct other activities to advance technical education, develop radio operating technique, and enhance international goodwill.

U.S. VIEW: WRC-19 Agenda Item 1.1 is a Region 1 issue. Any changes made to the Radio

Regulations under WRC-19 Agenda Item 1.1 must not impact the existing allocation to the amateur service in 50 – 54 MHz in Region 2, nor subject Region 2 to any changed procedural or regulatory provisions.

Document WAC/031(18.04.17)

UNITED STATES OF AMERICA
DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.11

1.11 to take necessary actions, as appropriate, to facilitate global or regional harmonized frequency bands to support railway radiocommunication systems between train and trackside within existing mobile service allocations, in accordance with Resolution **236 (WRC-15)**

INTRODUCTION

Railway radiocommunication systems between train and trackside (Rail RSTT) carry train control, command, and operational information as well as monitoring data between on-board radio equipment and related radio infrastructure located along trackside. World Radiocommunication Conference (WRC) 2019 agenda item 1.11 and associated ITU-R Resolution 236 (WRC-15) were developed out of an effort by some administrations to harmonize spectrum for railway radiocommunications systems between train and trackside for command and control.

Proposal:

NOC USA/1.11/1

Radio Regulations Volumes 1, 2 and 4

Reason: The United States believes it is unnecessary to identify spectrum specifically for railway radiocommunication systems. Studies towards regional and global harmonization can be satisfied by developing applicable ITU-R Reports and Recommendations. Therefore, no change to the Radio Regulations or regulatory action is required under this agenda item.

SUP USA/1.11/2

RESOLUTION 236 (WRC-15)
Railway radiocommunication systems between train and trackside

Reason: Studies towards regional and global harmonization can be satisfied by developing applicable ITU-R Reports and Recommendations. Therefore, this Resolution should be suppressed.

UNITED STATES OF AMERICA
DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 1.12

1.12 to consider possible global or regional harmonized frequency bands, to the maximum extent possible, for the implementation of evolving Intelligent Transport Systems (ITS) under existing mobile-service allocations, in accordance with Resolution **237 (WRC-15)**

INTRODUCTION: An Intelligent Transportation System (ITS) uses communications and computing technologies to improve transportation applications such as safe driving and to enhance productivity through the integration of advanced communications technologies into the transportation infrastructure and into vehicles and other end users. ITS encompasses a broad range of wireless and wire line-based information and electronics technologies.

World Radiocommunication Conference (WRC) 2019 agenda item 1.12 and associated ITU-R Resolution 237 (WRC-15) was developed out of an effort by some administrations to harmonize spectrum for Intelligent Transport Systems (ITS). Since the ITU initiated studies on ITS in the 1990s, there have been many changes in the ITS environment, including the introduction/planned introduction of new technologies and use of various frequency ranges.

Proposal:

NOC USA/1.12/1

Radio Regulations Volumes 1, 2 and 4

Reason: The United States believes it is unnecessary to identify spectrum specifically for Intelligent Transport Systems. Studies towards regional and global harmonization can be satisfied by developing applicable ITU-R Reports and Recommendations. Therefore, no change to the Radio Regulations or regulatory action is required under this agenda item.

SUP USA/1.12/2

RESOLUTION 237 (WRC-15)
Intelligent Transport Systems applications

Reason: Studies towards regional and global harmonization can be satisfied by developing applicable ITU-R Reports and Recommendations. Therefore, this Resolution should be suppressed.

PROPOSED EDITS TO NTIA DRAFT PROPOSAL ON WRC-19 AI 9.1.8

(REF. WAC/025(18.04.17))

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 9.1, Issue 9.1.8:

Agenda Item 9.1, Issue 9.1.8: ~~On~~ the activities of the Radiocommunication Sector since WRC-15, Issue 9.1.8: – Resolution 958 (WRC-15) – Urgent studies required in preparation for WRC-19 – Narrowband and broadband machine-type communication infrastructures.

~~Introduction~~**Background Information:** WRC-19 Agenda item 9.1, issue 9.1.8 calls for studies on the technical and operational aspects of radio networks and systems, as well as spectrum needed, including possible harmonized use of spectrum to support the implementation of narrowband and broadband machine-type communication infrastructures, in order to develop Recommendations, Reports and/or Handbooks, as appropriate, and to take appropriate actions within the ITU Radiocommunication Sector (ITU-R) scope of work.

Machine-type communication (MTC), machine-to-machine (M2M), and Internet of Things (IoT) are all different names for the same type of application that enables machines to communicate with each other. In this proposal, MTC is the common reference for these forms of communication. In the ITU-R, these types of applications already take advantage of spectrum allocated to the mobile service, including frequency ranges identified for International Mobile Telecommunications (IMT). Input from industry and other groups developing MTC technologies, including presentations at the ITU Workshop on Spectrum Management for Internet of Things Deployment (November 2016, Geneva, Switzerland), indicated overwhelmingly that identifying specific frequency bands for MTC ~~these~~ applications may delay or unnecessarily restrict innovation, and may cause an inefficient use of the spectrum. Therefore, having spectrum identified specifically for MTC is neither desired, nor necessary.

Proposal:

NOC USA/9.1 Issue 9.1.8/1

Radio Regulations Volumes 1, 2 and 4

~~Conclusion:~~ **Reason:** The United States believes it is unnecessary to identify spectrum specifically for machine-type communications. Therefore, no change to the Radio Regulations or regulatory action is required.

SUP USA/9.1 Issue 9.1.8/2

Annex to RESOLUTION 958 (WRC-15) number 3

3) Studies on the technical and operational aspects of radio networks and systems, as well as spectrum needed, including possible harmonized use of spectrum to support the implementation of narrowband and broadband machine-type communication infrastructures, in order to develop Recommendations, Reports and/or Handbooks, as appropriate, and to take appropriate actions within the ITU Radiocommunication Sector (ITU-R) scope of work.

Reason: The United States believes it is unnecessary to identify spectrum specifically for machine-type communications. Therefore the studies under number 3 of the Annex to Resolution 958 should be suppressed.

Space Services

Document WAC/029(18.04.17)

**PROPOSED EDITS TO NTIA DRAFT PROPOSAL ON WRC-19 AI 9.1.7
(REF. WAC/025(18.04.17))**

**UNITED STATES OF AMERICA
DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE**

Agenda Item 9.1, Issue 9.1.7: Resolution 958 (Rev.WRC-15): to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention, on the activities of the Radiocommunication Sector since WRC-15 on the urgent studies required in preparation for WRC-19 on the unauthorized operation of earth station terminals (Res. ITU-R 64 [\(RA-15\)](#)).

Background Information: The Radiocommunication Assembly (RA-15) approved Resolution ITU-R 64, titled “Guidelines for the management of unauthorized operation of earth station terminals”. The resolves of this resolution invited ITU-R study groups concerned:

- 1 to conduct studies to examine whether there is a need for possible additional measures in order to limit uplink transmissions of terminals to those terminals authorized in accordance with No. **18.1**;
- 2 to study the possible methods that will assist administrations in managing the unauthorized operation of earth station terminals deployed within their territory, as a tool to guide their national spectrum-management program.

Resolution 958 (WRC-15) identifies topics requiring urgent study for inclusion in the Report of the Director for WRC-19. In the Annex to this resolution, Section 2 raises the issue of unauthorized operation of uplink terminals.

- a) whether there is a need for possible additional measures in order to limit uplink transmissions of terminals to those authorized terminals in accordance with No. 18.1; and
- b) the possible methods that will assist administrations in managing the unauthorized operation of earth station terminals deployed within its territory, as a tool to guide their national spectrum management programme, in accordance with Resolution ITU-R 64 (RA-15).

This issue concerns the operation of unlicensed uplink terminals in an administration’s territory. For some administrations, the use of these terminals causes interference into legitimate satellite service users as well as terrestrial systems. These administrations may not have the resources or technical capabilities to identify and geo-locate the unauthorized uplink terminals. An objective of this issue is to determine whether there is any need for regulatory measures to inhibit the use of unauthorized uplink terminals. So far, studies have shown that this issue can be resolved within the administration by methods not requiring modification of the Radio Regulations. Some administrations may require better spectrum management training and internal spectrum monitoring to identify unauthorized uplink transmissions. The development of ITU-R reports or handbooks may assist administrations in the management of their satellite spectrum resources to

prevent or limit the unauthorized use of uplink terminals and enable the administration to locate and terminate the unauthorized transmissions.

Article 18 of the Radio Regulations already addresses the licensing of uplink transmissions of terminals. In particular RR No. 18.1 states that “No transmitting station may be established or operated by a private person or by any enterprise without a licence issued in an appropriate form and in conformity with the provisions of these Regulations by or on behalf of the government of the country to which the station in question is subject.”

Proposal:

NOC USA/9.1/9.1.7/1

Radio Regulations (WRC-15) Volumes 1, 2 and 4

SUP USA/9.1/9.1.7/2

ANNEX TO RESOLUTION 958 (WRC-15) No. 2

**Urgent studies required in preparation for the
2019 World Radiocommunication Conference**

2) Studies to examine:

a) whether there is a need for possible additional measures in order to limit uplink transmissions of terminals to those authorized terminals in accordance with No. 18.1;

b) the possible methods that will assist administrations in managing the unauthorized operation of earth station terminals deployed within its territory, as a tool to guide their national spectrum management programme, in accordance with Resolution ITU-R 64(RA-15).

Reasons/Conclusion: Earth station licensing and related issues are national matters and no changes to the Radio Regulations are necessary as Article 18 sufficiently addresses the required international regulatory measures. ~~Studies have not identified any methods requiring modification to the Radio Regulations.~~ Instead, better training and monitoring capability, along with ITU developed reports and handbooks, can assist administrations in inhibiting the use of unauthorized uplink earth terminals and can enable administrations to locate and terminate the unauthorized transmissions.